

PCT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/023917

International filing date (day/month/year)
22.07.2004

Priority date (day/month/year)
13.08.2003

International Patent Classification (IPC) or both national classification and IPC
C07C19/08, C07C19/10, C07C21/18

Applicant
PCBU SERVICES, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 56.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/US2004/023917**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/US2004/023917

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | |
| | No: Claims | 1-83 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-83 |
| Industrial applicability (IA) | Yes: Claims | 1-83 |
| | No: Claims | |

2. Citations and explanations**see separate sheet**

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2004/023917

D1: WO 03/029173 A (PCBU SERVICES INC) 10 April 2003 (2003-04-10)
D2: EP-A-0 434 409 (DU PONT) 26 June 1991 (1991-06-26)
D3: EP-A-0 253 410 (AUSIMONT SPA) 20 January 1988 (1988-01-20)
D4: US-B1-6 291 729 (RAO V N MALLIKARJUNA) 18 September 2001 (2001-09-18)

Section V.

- 1). The claims lack novelty as detailed in the search report or are considered to relate to subject-matter which is trivial in view of the novelty destroying embodiments of the prior art.
- 2). Where conditions presently claimed include reaction conditions of the prior art, but the co-formation of particular products, e.g. olefins is not specifically mentioned in the prior art, the burden of proof is considered to lie with the applicant that such products are not also formed in the prior art.
- 3). Reactions presently claimed catalysed by a mixture of Cu and Pd have been performed in the prior art: see the 6th to 8th entries on p.39 of D1 and p.9, lines 31-35 of D2. Claims relating to such reactions are therefore not novel.
- 4). Inter alia run no.1 in column 3 of D4 relates to a presently claimed reaction catalysed by Pd and conducted in a Nickel tube. This is considered novelty destroying for the Pd/Ni catalysed embodiment of present claim 7.
- 5). Present reactions catalysed by a combination of Cu and Pd are suggested by D1 inter alia as detailed above, p.9, lines 31-35 of D2 and claim 1 of D3. Insofar as particular ratios of these elements are to be used as a catalyst, it is not apparent how this is inventive.
- 6). Combinations of Ni and Pd as catalyst in the present type of reactions are suggested by claim 1 of D3. It is not apparent how these are presently inventive.